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| Fidonet HAM/PACKET Digest - For up to date HAM/PACKET info |
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E D I T O R I A L S

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In this issue you will find some pretty interesting things regarding the currently proposed Communicator Class License. The Communicator Class license (if accepted) will not require a Morse (CW) Code exam to be given to the applicant. Although the Communicator will have limited rights on the air, he will have the right to use any mode of transmission in his respective band spectrum.

The Fidonet Ham/Packet Digest is now 12 issues old!!

Happy Birthday to us!

Also are the regular clips and pieces of informative mail that has been passed through the Fidonet Ham and Packet echomail

areas.

73! de KB9BVN

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B U L L E T I N S

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ARRL Letter - Vol 9, No 4 - February 27, 1990

FCC RELEASES TEXT OF NPRM FOR CODELESS LICENSE

In its release dated February 16, the FCC detailed its rationale behind several issues regarding its newly proposed Communicator Class of amateur license. The FCC sees Communicator as the class of license which most newcomers into the hobby would elect to qualify for. This premise was used as the basis for its proposed elimination of the Novice Class license. Since FCC also proposes a comprehensive 60 question written test for the Communicator, they contend that the Communicator Class will also take the place of the Technician Class for future licensees.

Under the FCC proposal, "a Communicator Class licensee who passes, or otherwise receives credit for a telegraphy examination, would be authorized the additional privileges of the Technician Class." FCC intends to further simplify its documentation process by permitting Volunteer Examiners to issue a Certificate of Successful Completion of Examination (CSCE) as proof of a Communicator's code proficiency instead of formally upgrading them to Technician. The upgraded Communicator would sign their call followed by the identifier "/AC" and it appears that they would do so indefinitely or at least until they upgraded to General Class or higher. Volunteer Examiners would be permitted to issue a CSCE to Novices successfully passing the Communicator written exam. Under the proposal, VECs would provide listings to the FCC of the Communicators with the Morse code endorsement. Finally, the FCC proposes that all examinations be administered by Volunteer Examiners saying that the VECs provide more credible results than does the two examiner system now in use for Novice examinations.

The deadline for filing comments with FCC is August 6, 1990. Between now and the July 20-21 meeting of the ARRL Board, the Directors are looking forward to hearing from as many members as possible to assist them in determining the League's response. The full text of FCC's codeless proposal will appear in the April 1990 issue of QST.

FCC ISSUED CALL SIGN UPDATE

The following is a list of most recently issued FCC call signs (February 1).

DIST	GRP"A" Extra	GRP"B" Advanced	GRP"C" Tech/Gen	GRP"D" Novice
0	WZ0N	KF0HR	N0LMJ	KB0FVV
1	WC1W	KC1TG	N1HID	KA1VCU

2 WV2T KE2RK N2KGM KB2JID

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3	NY3G	KD3QX	N3HUR	KA3VSO
4	AB4TE	KN4DY	N4XZO	KC40MH
5	AA5QF	KI5CH	N5PYD	KB5LPN
6	AA6TX	KK6GE	N6XUD	KC6ILF
7	AA7DH	KF7ZZ	N70FE	KB7JQL
8	WY8Z	KF8EB	N8LUR	KB8JAO
9	W09B	KE9UN	N9JGE	KB9DZH
Guam	KH2M	AH2CF	KH2EI	WH2AMK
Hawaii	***	AH6KG	NH6VV	WH6CGO
Alaska	***	AL7LU	NL7TJ	WL7BXA
USVI	NP2F	KP2BS	NP2DO	WP2AGZ
P.R.	***	KP4QK	WP4XK	WP4ISQ

*** indicates that all 2 x 1 call signs have been assigned in those areas.

The -prefixed Group C (1X3) call# signs blocks for the fourth and sixth call districts have nearly all been assigned. After N4ZZZ and N6ZZZ have been issued, FCC will begin assigning calls from the Group D (2X3) call sign block.

NEWS FROM THE ARRL DXCC DESK

Walvis Bay (ZS9) was added to the ARRL DXCC Countries List by unanimous vote of the ARRL Awards Committee on February 22. Walvis Bay is an enclave of the Republic of South Africa, surrounded by territory of Namibia. DXCC credit will be given for contacts on or after September 1, 1977. QSL cards may be submitted for DXCC credit on or after June 1, 1990.

The 5 Band DXCC Award is now endorsable for 17 and 12 meters, in addition to 160, 6 and 2 meters. These endorsements are available only for those who have already qualified for 5BDXCC on the basic 80, 40, 20, 15 and 10 meter bands. Send an SASE to ARRL Hq for the endorsement application form.

FCC SHUTS DOWN UNLICENSED BROADCASTER

Working together, the FCC Baltimore and Detroit Field Offices located and shut down an unlicensed West Virginia pirate broadcast station on January 30. Mark R. Leavitt was fined \$1000 for illegally operating on 3.820 MHz in the 75 meter

amateur band.

Unauthorized operation of a radio transmitter is a violation of Section 301 of the Communications Act. Sanctions may include fines from \$10,000 to \$100,000 and/or imprisonment for up to one year.

ARRL COMMENTS IN FCC WARC-92 INQUIRY

The ARRL has filed its comments in response to an FCC inquiry in general docket 89-554. FCC sought information to assist in addressing the allocation issues likely to be raised at the 1992 ITU World Administrative Radio Conference. In its introduction,

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ARRL said that it recognizes the significance of the Inquiry and... "stands ready to participate fully in the process leading to the US position at WARC-92."

A primary concern for amateurs at the upcoming WARC is the issues that deal with spectrum allocations for HF Broadcasting. FCC asked for comments on the projected needs of the HF broadcasting service. The League responded saying, "There have been dramatic changes in the world since HFBC-87 [WARC for the Planning of the HF Bands Allocated to the Broadcasting Service. Second Session. 1987].. These changes are relevant to the projected needs for additional HF broadcasting service allocations." Some of these "dramatic" changes include: a significant reduction in jamming; easing of restrictions in certain countries which formerly discouraged pluralistic views in their countries; and increasing delivery of information and other material to target audiences by new communications technologies. The FCC also asked whether HF Broadcasting allocations have to be exclusive and, if so, should these allocations be regional or worldwide. To this the ARRL responded, "The HF broadcasting service uses high power transmitters and directional antenna arrays to deliver high field intensities capable of overcoming the insensitivity of inexpensive receivers with built in antennas. In contrast, the amateur... service uses lower transmitter power and more sensitive receiving systems. As a result of these disparate power levels, it is difficult for any other service to share allocations with the broadcasting service.

"... The amateur service in Region 2... has a requirement for

access to 500 kHz of spectrum in the vicinity of 3500-4000 kHz because of the great reliance that is placed on use of this band for emergency communications networks. The requirement for access to 300 kHz of spectrum in the vicinity of 7 MHz is equally great, and is growing because of the diversity of modes of emission now being employed by amateurs. Interference from broadcasters is a limiting factor at 3900-4000 kHz and 7100-7300 kHz. As severe as this interference can be, amateurs do make effective use of these allocations... and often can find narrow frequency gaps between broadcasting stations where communications can be conducted even in the presence of interference. Loss of access to any part of these allocations would deal a severe blow to amateur disaster communications capabilities in Region 2. Those capabilities are now substantially lacking in Regions 1 and 3 in the absence of an adequate 7 MHz amateur allocation."

Commenting on other questions regarding frequency allocations affecting amateur bands in the UHF and SHF regions, ARRL noted "There are three amateur service bands within the 0.5-3 GHz range of interest for expansion of mobile-satellite and [other services], namely 902-928, 1240-1300 and 2300-2310/2390-2450 MHz." The League commented that the none of these bands are suitable for additional sharing as they are already being shared by Industrial, Scientific, Medical (ISM) and government

radiolocation services, and at intervals throughout the remaining spectrum to 300 GHz.

With regards to proposed new space services above 20 GHz, the League commented that the needs of the amateur and amateur satellite services should not be overlooked when allocations are made for new services. Currently, there are amateur allocations at 24-24.05 GHz on a primary basis and at 24.05-24.25 GHz on a secondary basis with radiolocation services.

The ARRL also commented.. "Should the agenda for the conference permit, the US should as a matter of policy pursue the opportunity to effect increased allocations to the amateur services..." including: a new shared allocation with a bandwidth of 50-100 kHz in the vicinity of 5 MHz; an expansion of the amateur allocations at 10, 18 and 24 MHz; and a 50 kHz expansion of the allocation near 14.350 MHz. In addition the League requested that the amateur service allocation in Region 2 at

7.1- 7.3 MHz now subject to harmful interference from high power broadcast stations, be to the amateur service worldwide. ARRL said that it would be ready to provide further justification at an appropriate time.

In its concluding comments, the ARRL said "In 1988, the United States Congress adopted... the Federal Communications Authorization Act of 1988. Among other things, this law stated the sense of Congress that... Government agencies shall take into account the valuable contributions made by amateur radio operators when considering actions affecting the Amateur Radio Service... this legislation made it clear that the intention of Congress... was to urge government agencies that have such jurisdiction to avoid actions which would reduce amateur service frequency allocations. The League urges that this same goal should be adopted by the Commission in its preparatory efforts for WARC-92."

FCC STARTS WHEELS TURNING ON ARRL "PART 97 CLEANUP PETITION"

The FCC has assigned file number RM-7243 to the League's petition of November 14, 1989, to revise certain sections of Part 97 of the rules governing the Amateur Radio Service, better known as the "Part 97 cleanup petition." The purpose of this petition is to request the FCC to consider certain changes that they did not deal with in PR Docket No. 88-139, the major Part 97 rewrite which became effective on September 1, 1989.

The FCC's stated purpose of the 88-138 proceeding was "reorganization and deregulation of Part 97." Reorganization amounted to changing the order of the subparts and sections, which had become patchwork. The deregulation goal could be measured by the number of pages eliminated from the rules; of course, there was hope for some simplification as well. In its comments to the FCC concerning their proposed rewrite, the League made numerous recommendations, which took the form of a complete new draft. The FCC's Report and Order contained many

of the League's recommendations, decided that others were substantive changes and beyond the scope of Docket 88-139, but left the door open for changes under a new proceeding. That's when the ARRL Ad Hoc Part 97 Rewrite Committee was called back into service to draft a cleanup petition.

In its petition, the League asked the Commission for a number of substantive changes. One was to ease restrictions on transmission of third-party traffic when operating under automatic control on frequencies above 50 MHz, which presently allows such operation only when using AX.25; this would eliminate the need for a control operator to be on duty whenever a voice repeater is used for a traffic net. The petition made a strong appeal to the FCC to amend section 97.121, which presently permits the Field Operations Bureau to restrict an amateur station operation, and entitle the amateur to a hearing in accordance with the section 316 of the Communications Act. The League again asked for relief from "the amplifier ban," which posed frequency and minimum drive power restrictions on commercial amplifiers because of illegal CB use. The present restrictions deprive amateurs from the opportunity to purchase amplifiers for the 24- and 28-MHz bands. The League feels that the restriction in section 97.515(c) that "no person may be a VE if that person's amateur station license or amateur operator license has ever been revoked or suspended" is overly harsh and that a person should be considered eligible to service as a VE ten years after such termination. The ARRL reiterated its request to permit amateurs to retransmit Department of Commerce time signals, weather and propagation forecasts.

As for cleanup, the League asked for definitions to be added for ASCII, AMTOR and Baudot codes, digipeater (to distinguish it from a voice repeater), emergency communications and tactical call signs. Technical improvements in the definitions of bandwidth and spurious emissions were also sought. The League also asked the Commission to add space telecommand, space telemetry, telecommand and telemetry, and to bring them into agreement with Part 2 of the rules. Additional amendments in some sections were recommended to reflect the definitional changes. The League recommended that the rules be amended to require at least four persons to constitute a club, as opposed to the present two persons. The cleanup petition requested flexibility in use of radio apparatus aboard a ship or aircraft; current rules require separate radio equipment for amateur operation, except that a common antenna may be used. The petition asked that the requirement that bulletin or code practice stations, for which material compensation is not prohibited (example: W1AW), transmit on all MF/HF bands be reduced to six MF/HF bands.

PROPAGATION FORECAST BULLETIN 12 ARLP012

FROM ED TILTON, W1HDQ
SPRING HILL FL MARCH 19, 1990
TO ALL RADIO AMATEURS

LAST WEEK'S BULLETIN CALLED ATTENTION TO CHANGES IN THE CHARACTER OF THE SOLAR FLUX BEGINNING WITH DECEMBER OF LAST YEAR. THE MONTHLY HIGHS HAD HELD UP FAIRLY WELL, BUT THE LOWS BEGAN TO GO MUCH LOWER IN DECEMBER. JANUARY WAS OFF SLIGHTLY IN ALL ASPECTS, BUT THE SOLAR FLUX TOOK A REAL DIVE TO 138 ON THE 11TH. THIS WAS THE LOWEST FLUX READING SINCE SEPTEMBER 1988.

A HEARTENING TREND OCCURRED WHEN MARCH OPENED WITH THE FLUX RUNNING HIGHER EVERY DAY THAN FOR THE CORRESPONDING DAY LAST MONTH. THIS IS STILL GOING ON AS OF MARCH 18, AND THE MARGIN OVER FEBRUARY IS INCREASING DAILY. AS THIS IS BEING WRITTEN SUNDAY NIGHT, THE MARCH SOLAR FLUX HAS GAINED 103 POINTS ON FEBRUARY IN THE LAST FOUR DAYS. IF ANYTHING LIKE THAT PACE IS MAINTAINED IN THE SECOND HALF OF MARCH, WE COULD BE MOVING INTO SPRING IN FINE STYLE.

AT THE WORST WE SHOULD BE BETTER OFF THAN AT ANY TIME SINCE EARLY FEBRUARY WHEN THE FIRST MAJOR DIP IN CYCLE 22 GAVE US A SCARE. THE APPEARANCE OF THE SUN HAS NOT BEEN VERY EXCITING, BUT AS OF SUNDAY THE SUNSPOT NUMBER WAS UP SLIGHTLY OVER RECENT DAYS.

AMERICAN SUNSPOT NUMBERS FOR MARCH 8 THROUGH 14 WERE BETWEEN 68 AND 86 WITH A MEAN OF 77. AR

UOSAT-OSCAR-14 and UOSAT-OSCAR-15

** UoSAT-OSCAR-14 **

Attitude Control and Stabilization

Manueuvers prior to gravity gradient stabilization have taken somewhat longer than expected. The most recent delays were caused by the need to add digital filters to the attitude determination software to remove unwanted noise from the magnetometer readings. The filters have been installed, and a new version of the FORTH diary will be uploaded soon.

High Speed Downlink Tests

The UoSAT Command Station has been conducting limited experiments with the 9600 bits/second Frequency Shift Keyed (FSK) downlink on UO-14. These tests have been quite successful, doubling the highest digital link speed previously used on any OSCAR satellite (4800 bps is routinely used on UO-11).

Data transmitted during these tests has been either asynchronous telemetry from the Very Large Scale Integrated telemetry system or continuous streams of 1 bits (no data at all). The "stuck ones" tests are very useful because of the scramblers in the modulator and demodulator. The 1's are scrambled and transmitted as pseudorandom data over the RF link. The groundstation demodulators then lock onto this data, descramble it, and reproduce the continuous 1's. Any 0's in the demodulated output data stream are caused by bit errors on the communication link, and the link bit error rate (BER) can be

calculated from the frequency of such transitions.

BER tests are to be scheduled into the DIARY in aid of those trying to test their FSK receive system. The first scheduled tests were scheduled for the morning passes over the East Coast of the US on 15 March.

de G0/K8KA.

** UoSAT-OSCAR-15 **

The team at Stanford has succeeded in detecting local oscillator (LO) leakage from the UO-15 command receiver. The weak signals were first detected on March 10 and then again on March 11. Roy Long, leading the Stanford Research Institute team on the recovery attempt, said that there is no dbt that the signal comes from UoSAT-15. It is weaker than the corresponding signal on UoSAT-14, as expected from prelaunch measurements. Each UoSAT carries three receivers: a fixed-frequency command receiver and two communications receivers with switchable frequency. Efforts will now concentrate on monitoring one of the switchable frequency receivers. If one of these receivers is heard, commands will then be sent to change the receiver

frequency, which should cause a corresponding change in the LO frequency. Observation of changed LO frequency will confirm that the satellite's command system is basically healthy.

The work at Stanford is very time consuming, requiring azimuth and elevation control of the huge Stanford 150 diameter dish to within tight limits. Data are collected for only a few seconds, followed by hours of post-processing.

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A R T I C L E S

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NEW CALLSIGN SERIES FOR BRITISH HAMS
(Extracted from March 1990 Radio Communications)

At present all UK callsigns begin with the letter G. However, both the present Class A (with code) series, G+0+3 letters, and the Class B (no code) series, G+7+3 letters, are rapidly running out. ("5" will be issued for Class B when the "7"s have run out.) The Dept of Trade and Industry (DTI) plan to go to callsigns beginning with the letter "M" for ALL new licences of both classes when EITHER the present Class A or Class B series runs out.

In the M series, the number will indicate the UK country, and a letter will indicate the licence class, ie: 2=England, 3=Scotland, 4=Wales, 5=GI, 6=GD, 7=GJ, 8=Guernsey, 1, 9, 10=spare.

Calls will be like MA2AAA, which would be MA3AAA if the station moved to Scotland. The MB prefix will be used for special events, and MC for clubs. MA and MD-MJ will be Class A, MK-MZ for Class B. The new Novice versions of the Class A and B licences will use the prefix "2" instead of "M", ie 2A2AAA or 2K3AAA, etc.

The DTI are proposing to allow certain club stations to send greetings (third-party) messages. This will be indicated by present G club prefixes being changed to GX for clubs having this privilege, and GM to GS, GW to GC, etc. Note that use of the new call is only mandatory for periods during which greetings messages are being sent. etc

Who said that the American callsign scheme is complicated ??????

73, Bob W30TC

**** ITALY ON 50 MHz ****

From Gian Moda, I7SWX 19-MAR-1990

The Italian PTT has released to italian hams the 50MHz band, after long work of A.R.I. and a positive ok by the Italian Ministry of Defence, with a doc.n. 11422 dated 6 march 1990, but with the following conditions :

- Frequency : 50,157.5 MHz +/- 6,250 Hz with a total band of 12,5 KHz
- Maximum RF Output Power : 10 W
- Service : Secondary (this band is used by Army services)
- Authorization : Following a request to the PTT Authority by single operator or group of operators (only full privilege licencees)
- Time-period : 1 year with possible renewal.
- Modes : A1A (CW but no modulated telegraphy) and J3E (Single Side Band but only upper band : USB)
- Absolute frequency limits : 50,151.250 MHz and 50,163.750 MHz
- It is forbidden the activity of beacons, FM emission or other modes (Packet and others).

It is the beginning for italian hams but we must be very careful not to go "outside" of the PTT guidelines to avoid any possible negative reaction for the renewal and possible extension of band.

Soon (time to get the authorization) several italian call-sign will be heard on 50 MHz. Please spread the NEWS.

73 de I7SWX - Gian MODA (one of those that requested the special permit).

Numbers Stations by Havana Moon

This material has been posted previously - but is a good basic introduction to "The Numbers" - so . . .

In response to recent questions about the "Numbers" Stations, their origin and purpose, the following summary captures the high points.

"Spy Numbers Transmissions" are a shortwave oddity which have been around for the last 25 years. They are commonly heard in English, German, Spanish and the Slavic languages and take the form of four and five digit groups of numbers which are preceded by a three digit "identifier" and a "group count" which corresponds to the number of number groups transmitted in the crypt. They are generally broadcast by a mechanical- sounding YL, although Morse code (CW) "cut number" transmissions are also frequently reported, as are phonetic alphabet transmissions. Several distinctly different formats have been noted.

The "who" and "why" aspects of these transmissions are, for the most part, unknown. Their mysterious nature has resulted in their common characterization as 'spy' transmissions. Information on the "where" aspects below.

The spy theory has been enhanced over the years by the FCC's inconsistent position in response to numerous inquiries by the Shortwave Listening community.

If you've never heard a numbers transmission, tune your radio to 11468 kHz any Saturday at 4pm EST (2100 UTC). You'll almost certainly hear a 'classic' numbers transmission which will run from 15-30 minutes. The signal from this Saturday transmission

is very powerful and can be heard across the United States.

In regards the "where" - a number of sites have been identified in recent years, notably in Warrenton and Remington, VA and Miami, FL. In addition, with the aid of sophisticated RDF (radio direction finding) equipment and the invaluable assistance of highly authoritative and professional resources, several new transmission sites have been positively identified over the past several months, including sites in Nicaragua, Honduras, El Salvador, Cuba and Cozumel.

One particularly dangerous station has been interfering with air to ground traffic on 6577 kHz, a frequency allocated to international aeronautical communications in the busy Caribbean sector.

On at least one monitored transmission, the air traffic controller at ARINC moved the pilot to an alternate frequency as the numbers transmission was totally blocking the frequency from effective use. This regular transmission can be heard on Mondays at 0200 UTC (Sunday night local US time) across most of the US.

A recently identified Cuban site (Guineo) is believed to be a major transmitter site used by DGI (Cuban Intelligence).

There has been some suggestion that the numbers are a form of 'one-time-pad' - a crude but unbreakable form of encryption (unless you've got the key, that is) - if that's the case, it's very curious to note that the same five-digit groups are often seen to repeat over and over again in the very same crypt - and that the same transmissions are seen to repeat from week to week, and from month to month - so often, in fact, that tape breaks are sometimes noted. When spliced back together, the sloppy handling sometimes results in truncated 5-digit groups - the end result being a mixture of 4 and 5 digit groups in the very same transmission!

These facts would tend to point one away from the one-time-pad concept and support a couple of other theories - suggesting that the numbers are NOT a cipher, but rather a code unto themselves, and that much of this traffic is 'dummy' in nature - broadcast simply to keep a frequency open over a long period of time.

In addition, most five-digit Spanish numbers transmissions are very badly over-modulated, resulting in numerous spurs up and down frequency. When broadcast under such conditions, the numbers (6) seis and (7) siete are almost indistinguishable, making it impossible to copy a crypt without numerous errors.

It is worth noting that the four-digit Spanish and English transmissions do not reflect this same technical ineptitude.

There are a number of reference materials available which provide detailed information about cryptography and cryptanalysis, in general, and numbers crypts, specifically. I'd be happy to provide anyone interested with a list of books.

Only two publications I know of are currently available which provide regular coverage of numbers, clandestine, pirate and other interesting transmissions. The ACE Bulletin (monthly news- letter of the Association of Clandestine Enthusiasts - PO Box 11201, Department KK, Shawnee Mission, KS 66207 \$16/yr) and the Umbra et Lux Newsletter (a newsletter devoted to SIGINT, covert radio and related topics - 10606-8 Camino Ruiz, Department KK, Suite 174, San Diego, CA 92126 \$18/yr).

Havana Moon

(ed. note: The above article was found posted on GEnie)

Satellite info sources
By N1GKE

This information comes at the request of a friend who asked me once if I could recommend any reading material on Amateur and other satellites. This is what I have found available and hope it will serve you as it has me.

U.S. Agencies

NESDIS (formerly NESS): The National Environmental Satellite Data, and Information Service is the agency responsible for operating and disseminating information related to U.S. Weather Satellites. NESDIS is part of NOAA. You may wish to write NESDIS to request that your name be added to the "APT Information Notes" mailing list and a list of NOAA Technical Memorandums (TMs) and reports (TRs) concerning weather satellites, and other information (always be as specific as possible). Address requests to Coordinator, Direct Readout Services, E/ER2, NOAA/NESDIS, Washington, D.C. 20233.

NOAA: The National Oceanic and Atmospheric Association is part of the U.S. Department of Commerce. For the lists of NOAA publications related to weather satellites contact Environmental Data Service (D822), NOAA, 6009 Executive Blvd., Rockville, Md. 20852. NOAA usually has a limited supply of each publication for free distribution. Once these are gone, copies may be purchased from NTIS.

NTIS: The National Technical Information Center acts a central clearing house for specialized publications by NOAA and other government agencies. Documents are generally available in hard copy or microfiche format. Microfiche copies are much cheaper so check your local library to see if they have the special reader required. Ordering is usually a two step process. First request the price of the documents (specify the accession number if known and give complete details as to the author, title, agency, date etc.) After you receive the details, send your check to NTIS, Dept. of Commerce, 5285 Port Royal Rd., Springfield, Va. 22151

Books On Weather Satellites that Users Should not be Without.

Summers, R.J. and T. Gotwald, Teachers Guide for Building and Operating Weather Satellite Ground Stations, NASA EP-184, 1981. Educators may obtain free copies from Educational Programs Office, Code 202, Goddard Space Flight Center, Greenbelt, Md. 20771.

Taggart, R.E., Weather Satellite Handbook, 2/E, 73 Publications, Peterborough, N.H. 03458, 1981.

Vermillion, C.H. Weather Satellite Picture Receiving Stations: Inexpensive Construction of Automatic Transmission Ground Equipment, NASA, SP-5080, 1969. NTIS Accession no. N69-31985.

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The Satellites Experimenter's Handbook from The A.R.R.L. will also provide much needed information on current and past Amateur Satellite operations.

ARRL FILE FORMAT FOR CONTEST LOG SUBMISSIONS

Rich Assarabowski K1CC
Chairman, ARRL Contest Advisory Committee

The ARRL Contest Advisory Committee has adopted a set of guidelines for submitting log entries on diskette. A suggested ASCII file format was initially proposed by the CAC and the ARRL Contest Branch at the beginning of this year. It was distributed within the CAC and among contest software developers for comment. Considerable discussion took place regarding the merits of binary vs. ASCII files, with software developers tending to support binary file formats. The feeling of the CAC was that although binary files are indeed more efficient, they would be more difficult to generate for the average user. This would tend to discourage rather more than encourage submissions on diskette. An ASCII file format was therefore adopted for submitting logs in diskette in lieu of paper logs. Since the ARRL Contest Branch uses binary file formats in its log processing software, it will convert the submitted ASCII files into its own binary format.

However, the Contest Branch has agreed to work with any software developer who wishes to generate a binary output which could be directly read in by the ARRL log checking software. Several software developers (K1EA, KY1H and K8CC) have already agreed to produce an ARRL binary format option within their programs and will be providing this option in future releases of their software. Contest logs can be submitted in ARRL binary format from those developers who provide this option. Software developers can contact the ARRL Contest Branch for details.

The ARRL Contest Branch for some time now has been working on a set of computer programs for contest log processing. The

objective of this effort is to improve the log checking capability and the accuracy of results, and at the same time to reduce the time involved in processing, scoring and verifying submitted logs, both paper and disk-based. It must be strongly emphasized that paper logs will be scrutinized at least as carefully as computer-generated logs (if not more so!). Log submissions more not adhering to these guidelines will still be accepted (such as logs duped post-contest without any time, band or exchange information), however, they must be accompanied by a paper log containing the required QSO data.

The guidelines below were revised a number of times and are the result of considerable thought and discussion. We originally developed a fixed-field ASCII file format with very strict requirements regarding data sequence, justification and field definitions. However, we subsequently relaxed these requirements, in order to make it simpler and less error-prone, without too much additional effort on the part of the Contest Branch. Any contest logging program should be able to produce an ASCII output following these guidelines without much

difficulty. Almost all commercial database and spreadsheet software provides an ASCII output file option.

We have initially decided to limit the log submissions to IBM PC or compatible (MS-DOS) disks. If there is enough demand in the future for other computers (Commodore, Apple, etc.), the ARRL Contest Branch will consider accepting those as well. It is also possible to submit logs to the ARRL Contest Branch via modem, preferably for smaller logs and for those more who cannot create an MS-DOS disk. The ARRL bulletin board is available 24 hours and is currently on line. The telephone number is (203) 665-0090, using 300, 1200 or 2400 baud (No parity, 8 bits, 1 stop bit). Please follow the same file format as for disk submissions, and be sure to send in your paper summary sheet via the mail.

Finally, the CQ Contest Committee has agreed to accept the ARRL ASCII format as a standard as well, and will encourage submissions in that format. Other formats will be accepted but must be accompanied by a paper log. The ARRL Contest Branch will be working with the CQ Committee in maintaining a unique call sign database and in sharing their log checking methodologies.

SUGGESTED STANDARD FILE FORMAT FOR SUBMISSION
OF ARRL CONTEST LOG DATA

1. All files must be in standard ASCII format.
2. All files must be on an MS-DOS formatted disk, 3.5 inch (720K or 1.44 MB) or 5 1/4" (360K or 1.2 MB).
3. A diskette label should clearly indicate the call used, contest name, entry class and date of the contest.
4. The log file must consist of one line of data per QSO, without headers, footers, page breaks or other non-ASCII characters.
5. All QSO data must appear in each line, aligned by column, and must include the following:

BAND - Wavelength for HF (10,15,20,...) and frequency for VHF
MODE - PH, CW, RTTY, etc.
DATE - In MM/DD/YY or DD/MM/YY format
TIME - 4-digit UTC (without colons)
CALL - Call sign of station worked (allow 15 columns)
SENT - Complete exchange sent
RECEIVED - Complete exchange received
MULTS - Indication of multipliers, either a symbol, sequential number of multiplier or section/prefix/zone, etc.

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POINTS - ALL unclaimed QSO's must be "0" points
STATION - Entries in the multi-operator, two-transmitter (Multi-2) class in the ARRL International DX Contest or any contest in which two different station logs are merged must indicate which transmitter made which QSO's.

6. The log data file name shall consist of the call sign and the extension ".LOG", for example, K1CC.LOG.
7. State abbreviations must be standard US Postal Service two-letter abbreviations, ARRL section abbreviations must be

those appearing on the ARRL summary sheet for that particular contest.

8. A paper summary sheet is required of all logs, either an official ARRL summary sheet or a close facsimile with a signed contest participation disclaimer.

8. All diskettes become the property of the ARRL and are not returnable.